Council Agenda # _____
Meeting of October 9, 2007

Staff Report

DISCUSSION AND DIRECTION REGARDING SEWER RATE SETTING METHODOLOGY

Honorable Mayor and Members of the City Council:

Summary
On July 24th, City Council at a regular meeting authorized and set sewer rates for fiscal 2008 in compliance with new Proposition 218 requirements. Council also directed staff to review the current and alternative rate methodologies which would allow additional time during the review process and meet the budget needs of the City's Sewer operations.

Background
On November 5, 1996, the California electorate approved Proposition 218, the self-titled "Right to Vote on Taxes Act." After the passage of Proposition 218, the City re-evaluated its residential sewer service charges. At that time, all residential customers paid the same annual charge per account. By charging the same per residential account, differences between household sizes were not accounted for, which raised equity issues with the public. To address this concern, the City converted its residential sewer service charges to a flow-based structure, which was similar to how the City's non-residential customers were billed. Sewer customer's bill are dependent on flow during the average winter water use for the account based on Mid-Peninsula Water District's ("MPWD") meter readings for the months of December through March.

The change in methodology from fixed to the present flow-based residential charges has improved ratepayer equity but has led to certain administrative complications, including unpredictability in flow data. The flow data does not become available until late April by MPWD due to different billing periods for customers. This timing necessitates that the staff and the rate consultant use preliminary data for the rate study and finalized data for the charge calculation. Often, there are differences between the two data sources. Unfortunately, all the steps included in the rate setting and charge calculations are necessary. For instance, flow information requires time to calculate and go through the proper review process. The rate study is required so that Council can review the information prior to notification to rate payers as required under Proposition 218. Finally, the data is being compiled in a shortened time frame so that the City can send the information to San Mateo County by the August 10th deadline to be placed on the following year's property tax rolls. The result of the legal requirements and deadlines by the City and San Mateo County leaves minimal time for review and modification.

At the July 24th City Council meeting, Council directed staff to evaluate and review the sewer methodology and bring back alternatives for consideration. Council was interested in a sewer model that would contain an element based on flow, which would continue to vary for each customer based on their average winter water use, and a fixed component that would be the same amount per account. The objective would be to introduce greater stability into the rate calculations so that revenue shortfalls could be minimized.

Discussion

The use of fixed and volumetric charges in rate making is very common by California rate setting government agencies. This is based on the local government agencies need to meet the appropriate rate-making objectives. Figure 1 that follows compares the use of fixed and volumetric charges in meeting rate-making objectives that are commonly used in setting rates in California.

Rate structures for metered water service typically include fixed and volumetric charges. The theory is that there should be charges that are designed to recover the fixed and volumetric costs. Utility services have significant fixed costs, such as personnel and capital costs. In water and sewer utilities, fixed costs can be on the order of 70% to 80% of the total operating and capital costs. In rate design, fixed charges do not have to be set to recover the majority of the costs because the volumetric charges typically also yield a significant portion of fixed revenue. In the water industry in California, there is a trend toward setting fixed charges that recover no more than 30% of the total revenue. In designing fixed charges for water service, the charges are usually a proportionate to the size of the service connection regardless of the type of customer.

The design of fixed charges for sewer service is different from designing fixed charges for water service. To begin with, fixed charges combined with volumetric charges are not as common for sewer service as they are for water service. For sewer rates, it is more common to have either flat charges with no volumetric charge or only volumetric charges. In 2000, the City converted from one common structure (i.e., entirely flat charges) to another common structure (i.e., entirely volumetric charges). The City's experience since 2000 with residential sewer rates that are based entirely on flow has highlighted certain administrative and financial challenges, as noted above.

Adding a fixed charge to the City's volumetric charge can be done in a number of ways. There are two primary variables to consider. First, the portion of total revenue that will be recovered from the fixed charges needs to be set. There is no "right" or "wrong" amount. As shown in Figure 1, recovering revenue from fixed charges generally improves revenue stability/predictability and the alignment of charges with costs but worsens ratepayer equity, the incentive to conserve, and customer understanding/acceptance. Balancing these variables is largely a policy matter.

Figure 1. Meeting Rate-Making Objectives With Volumetric and Fixed Charges

Rate-Making Objectives	Revenue From Volumetric Charges (same charge per hundred cubic feet)	Revenue From Fixed Charges (same charge per account)
1. Rate Payer Equity	Stronger - charge is proportionate to individual customer use. Minimum charge reduces proportionality.	Weaker - charge is unrelated to use.
2. Revenue Stability/Predictability	Less stable - should not vary greatly if average winter water consumption is used. Minimum charge is advised.	More stable - revenue is based on the number of accounts rather than flow.
3. Customer Understanding/Acceptance	Charging in proportion to use improves equity, which promotes acceptance. The minimum charge complicates the structure, which may reduce acceptance, particularly for customers who do not understand that the costs are largely fixed.	The structure is simple, which promotes acceptance. Customers have difficulty accepting the same charge for different levels of use.
4. Proposition 218 Compliance	Compliant - meets proportionality requirement.	Compliant - as long as charges reflect differences between customer classes.
5. Implementation and Ongoing Administration	Harder - flow data need to be aligned with tax roll data. Minimum charge is needed.	Easier - charges are based on numbers of accounts rather than flow data. No minimum charge needed.
6. Conservation Incentive, waste deterrent	Stronger - conserving or wasting water is reflected in decreased or increased charges.	Weaker - high users pay same charge as low users.
7. Alignment of Fixed Charges With Fixed Costs	Weaker - a high portion of costs are fixed. Minimum charges recover fixed revenue from low users.	Stronger - ~80% of costs are fixed.
8. Industry Best Practice	Increasingly common with expectation that flow will be used when possible.	Very common but trend is toward charges based at least in part on flow.

The second variable to consider is the type of fixed charge to implement. The following are examples of fixed charges:

- Equal fixed charges per account regardless of customer class. Please note this methodology is non compliant with Proposition 218.
- Equal fixed charges per account per customer class. In this case, low-strength customers are charged the lowest fixed charge, with multipliers used for calculating fixed charges for high-strength customers. The multipliers should reflect both hydraulic and strength differences in each class' discharge.
- Graduated fixed charges in proportion to the size of the water service connection. Because larger water services are often sized for fire flow, the multipliers need to be reduced for larger meter sizes to exclude the fire flow component. The multipliers depend only on hydraulic loadings.

All of these fixed charges act differently from the City's current minimum charge. These fixed charges would be charged regardless of flow; volumetric charges would be in addition. The City's minimum charge applies instead of the volumetric charge to any ratepayer whose flow is less than half the average for the class.

The availability and reliability of data plays an important role in determining which fixed charge can be implemented. Strictly speaking, the City's data related to its sewer customers is only a small part of the total data requirement. Assessor parcel numbers from San Mateo County and customer billing data from MPWD are the primary data that are needed, neither of which are in direct control of the City.

Because of the variety of factors that can affect the design of fixed charges and the readily available data at this time, the analysis for the purpose of this staff report used residential sewer customers as an example. A range of four options was developed, each of which is revenue neutral; these options are summarized in Figure 2.

Figure 2. Residential Rate Structure Alternatives[1]

Rate structure components	Sewer Rate Structure Alternatives			
	Current 100% Volume	25% Fixed 75% Volume	50% Fixed 50% Volume	Previous 100% Fixed
Portion of revenue from volumetric charge	100%	75%	50%	0%
Volumetric charge per 100 cubic feet	$ 5.00	$ 3.89	$ 2.59	$ -
Average monthly volumetric charge	$ 35.82	$ 27.87	$ 18.58	$ -
Portion of revenue from fixed charge	0%	25%	50%	100%
Fixed charge per equivalent dwelling unt	$ -	$ 9.29	$ 18.58	$ 37.16
Volumetric plus fixed charge	$ 35.82	$ 37.16	$ 37.16	$ 37.16
Minimum monthly charge (half of average for class)	$ 17.91	$ -	$ -	$ -

Moving from left to right across the alternatives in Figure 2, the amount of revenue from fixed charges increases from 0% under the current rate structure to 100% under the previous rate structure. In between are two alternatives that would generate 25% and 50% from the fixed charges. The current structure is the only alternative with a minimum charge.

Figure 3 was developed to show the monthly residential bills for a range of consumption from zero to twice the average for the residential customer class, which comprises 95% of the residential customer accounts.[2] Figure 4 is a tabular representation of the data graphed in Figure 3. Figure 4 also compares the difference between the current structure and the three alternatives.

[1] Note: The volumetric charge for the alternative in which 50% of the revenue is generated by fixed charges is $2.89/hcf. The volumetric charge for the current structure is $5.00/hcf, which is less than twice the $2.89/hcf because of the revenue that is generated by minimum charges under the current rates. Without the minimum charge, the volumetric charge for the current rate would have to be $5.78/hcf (two time $2.89/hcf).

[2] 7.16 hundred cubic feet per month is the average winter residential flow based on MPWD data.

In the case of the alternative that generates 25% from fixed charges, there would be a reduction in the bills for ratepayers that use about one-quarter of the average residential flow. These ratepayers would then pay more than the current structure until they reached average consumption, after which there would be a slight decrease for bills based on above-average winter water use. The differences are more pronounced as more revenue is shifted from the volumetric to the fixed charge. Overall, however, introducing a fixed charge has the effect of decreasing monthly bills for residential customers whose average winter water use is above average. In other words, creating a fixed charge reduces the volumetric charge and the reduction becomes cumulatively greater as water use increases. The cumulative reduction in volumetric charge revenue is not offset by building in a fixed charge for all levels of use.

Figure 3. Monthly Bills for Rate Structures Alternatives

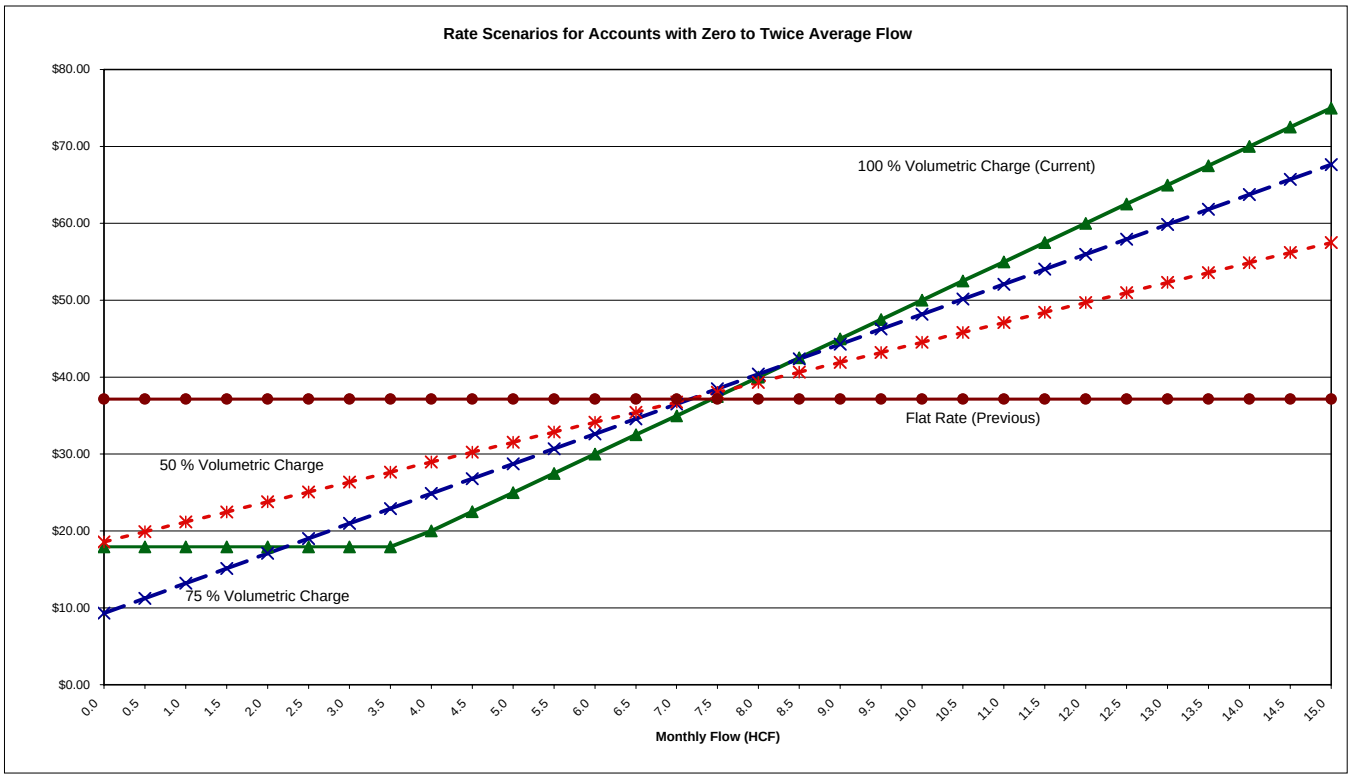

Figure 4. Comparison of Rate Structure Alternatives

Monthly HCF		Monthly Charges: Current 100% Volume	25% Fixed 75% Volume	50% Fixed 50% Volume	Previous 100% Fixed	Compared to Current Structure: 25% Fixed 75% Volume	50% Fixed 50% Volume	Previous 100% Fixed	Compared to Current Structure: 25% Fixed 75% Volume	50% Fixed 50% Volume	Previous 100% Fixed
0.0	*	$17.91	$9.29	$18.58	$37.16	($8.62)	$0.67	$19.25	-48.13%	3.74%	107.49%
0.5	*	$17.91	$11.24	$19.88	$37.16	($6.68)	$1.97	$19.25	-37.27%	10.98%	107.49%
1.0	*	$17.91	$13.18	$21.18	$37.16	($4.73)	$3.26	$19.25	-26.41%	18.22%	107.49%
1.5	*	$17.91	$15.13	$22.47	$37.16	($2.79)	$4.56	$19.25	-15.55%	25.46%	107.49%
2.0	*	$17.91	$17.07	$23.77	$37.16	($0.84)	$5.86	$19.25	-4.69%	32.70%	107.49%
2.5	*	$17.91	$19.02	$25.07	$37.16	$1.11	$7.15	$19.25	6.17%	39.94%	107.49%
3.0	*	$17.91	$20.96	$26.36	$37.16	$3.05	$8.45	$19.25	17.03%	47.18%	107.49%
3.5	*	$17.91	$22.91	$27.66	$37.16	$5.00	$9.75	$19.25	27.89%	54.42%	107.49%
4.0		$20.00	$24.85	$28.96	$37.16	$4.85	$8.96	$17.16	24.26%	44.78%	85.82%
4.5		$22.50	$26.80	$30.25	$37.16	$4.30	$7.75	$14.66	19.10%	34.46%	65.18%
5.0		$25.00	$28.74	$31.55	$37.16	$3.74	$6.55	$12.16	14.97%	26.20%	48.66%
5.5		$27.50	$30.69	$32.85	$37.16	$3.19	$5.35	$9.66	11.59%	19.44%	35.14%
6.0		$30.00	$32.63	$34.14	$37.16	$2.63	$4.14	$7.16	8.78%	13.81%	23.88%
6.5		$32.50	$34.58	$35.44	$37.16	$2.08	$2.94	$4.66	6.40%	9.05%	14.35%
7.0		$35.00	$36.52	$36.74	$37.16	$1.52	$1.74	$2.16	4.35%	4.96%	6.19%
7.16		$35.82	$37.16	$37.16	$37.16	$1.34	$1.34	$1.34	3.74%	3.74%	3.74%
7.5		$37.50	$38.47	$38.03	$37.16	$0.97	$0.53	($0.34)	2.58%	1.42%	-0.89%
8.0		$40.00	$40.41	$39.33	$37.16	$0.41	($0.67)	($2.84)	1.04%	-1.67%	-7.09%
8.5		$42.50	$42.36	$40.63	$37.16	($0.14)	($1.87)	($5.34)	-0.33%	-4.41%	-12.55%
9.0		$45.00	$44.30	$41.92	$37.16	($0.70)	($3.08)	($7.84)	-1.55%	-6.83%	-17.41%
9.5		$47.50	$46.25	$43.22	$37.16	($1.25)	($4.28)	($10.34)	-2.63%	-9.01%	-21.76%
10.0		$50.00	$48.19	$44.52	$37.16	($1.81)	($5.48)	($12.84)	-3.61%	-10.96%	-25.67%
10.5		$52.50	$50.14	$45.81	$37.16	($2.36)	($6.69)	($15.34)	-4.50%	-12.73%	-29.21%
11.0		$55.00	$52.09	$47.11	$37.16	($2.91)	($7.89)	($17.84)	-5.30%	-14.34%	-32.43%
11.5		$57.50	$54.03	$48.41	$37.16	($3.47)	($9.09)	($20.34)	-6.03%	-15.81%	-35.37%
12.0		$60.00	$55.98	$49.71	$37.16	($4.02)	($10.29)	($22.84)	-6.71%	-17.16%	-38.06%
12.5		$62.50	$57.92	$51.00	$37.16	($4.58)	($11.50)	($25.34)	-7.33%	-18.40%	-40.54%
13.0		$65.00	$59.87	$52.30	$37.16	($5.13)	($12.70)	($27.84)	-7.90%	-19.54%	-42.82%
13.5		$67.50	$61.81	$53.60	$37.16	($5.69)	($13.90)	($30.34)	-8.43%	-20.60%	-44.94%
14.0		$70.00	$63.76	$54.89	$37.16	($6.24)	($15.11)	($32.84)	-8.92%	-21.58%	-46.91%
14.5		$72.50	$65.70	$56.19	$37.16	($6.80)	($16.31)	($35.34)	-9.38%	-22.50%	-48.74%
15.0		$75.00	$67.65	$57.49	$37.16	($7.35)	($17.51)	($37.84)	-9.80%	-23.35%	-50.45%
$/HCF		*$5.00*	*$3.89*	*$2.59*	*$0.00*						

* *Subject to minimum charge under current structure*
Scenarios are calculated to be revenue neutral.

7.16 hcf = average monthly flow.

6,342 # of sfr accounts with flow represented in this table
6,683 total # of sfr accounts
94.90% of all sfr accounts' flow is represented in this table

Evaluating these alternatives is judgmental and is a policy issue for City Council's considerations. Staff has conducted a ranking procedure to assist the City Council in understanding and evaluating the alternatives included herein. Staff emphasizes that this procedure reflects its collective judgment including its consultant, John Farnkopf. Of course, the City Council could adjust the procedure to arrive at its own ranking or ask for additional information that would assist it in its deliberations.

The ranking procedure shown in Figure 5 is a multi-step process. First, each alternative is scored as to how well it achieves each of the rate-making objectives. These scores correspond to the summaries in Figure 1. A weighting factor has been developed based on best practices and was applied to each rate-making objective to indicate relative importance. Each score is multiplied times the respective score, yielding a weighted score. The sum of the weighted score determines the rank, with the lowest score identifying the highest ranked alternative. Following this process, Figure 5 ranks the current rate structure highest. While staff's intention was to provide an objective analysis, the process itself did include some subjectivity. Nonetheless, the process provides a framework for City Council to consider the implications of the various rate methodologies.

Figure 5. Ranking of Rate Structure Alternatives

Rate-Making Objectives	Score (1=Best, 4=Worst) Sewer Rate Structure Alternatives: Current 100% Volume	25% Fixed 75% Volume	50% Fixed 50% Volume	Previous 100% Fixed	Weighting Factors	Weighted Score (Score Times Weighting Factor) Sewer Rate Structure Alternatives: Current 100% Volume	25% Fixed 75% Volume	50% Fixed 50% Volume	Previous 100% Fixed
1 Rate Payer Equity	1	2	3	4	20%	0.200	0.400	0.600	0.800
2 Revenue Stability/Predictability	3	4	2	1	20%	0.600	0.800	0.400	0.200
3 Customer Understanding/Acceptance	1	2	3	4	15%	0.150	0.300	0.450	0.600
4 Proposition 218 Compliance	2.5	2.5	2.5	2.5	15%	0.375	0.375	0.375	0.375
5 Implementation and Ongoing Administration	2	3.5	3.5	1	10%	0.200	0.350	0.350	0.100
6 Conservation Incentive, waste deterrent	1	2	3	4	10%	0.100	0.200	0.300	0.400
7 Alignment of Fixed Charges With Fixed Costs	3	4	1	2	5%	0.150	0.200	0.050	0.100
8 Industry Best Practice	1	3.5	3.5	2	5%	0.050	0.175	0.175	0.100
					100%	**1.825**	**2.800**	**2.700**	**2.675**
					Ranking	**1**	**4**	**3**	**2**

Again, scoring the alternatives and weighting the rate-making objectives is a subjective process the results from which should not be regarded as incontrovertible science. Nonetheless, staff believes this process provides relevant information.

The foregoing ranking procedure may validate continued use of the current rate structure. However, the current rate structure's weakest scores were received for revenue stability/predictability and alignment of fixed charges with fixed costs. The scores for both of these objectives are related to the fact that the current rate structure is dependent on flow, which can cause significant deviations in revenue. To mitigate for fluctuations in flow, other strategies are possible such as:

- Use water use from the prior fiscal year so that the calculation of average winter water use could begin earlier, rather than in April, which would allow the rate consultant more time for analysis, the City Council more time for evaluating the rate analysis, and more time to get the charges on the tax rolls.
- Use average winter water use for the most recent two years. The City of Burlingame uses this blended approach. Note that the City of Burlingame is the local water provider, has ready access to billing data needed to calculate winter water use, and also bills its sewer customers, rather than relying on the County tax rolls and has 11 finance personnel or 66% larger than the City of Belmont.
- Discontinue billing on the tax rolls and bill customers directly on a monthly or bimonthly basis by developing in-house billing capabilities or outsourcing billing to MPWD or a vendor. This alternative was evaluated in 1999 but rejected.

Staff's recommendation is to use water from prior fiscal year and continue to bill on the tax rolls. This would allow the calculations to begin earlier using available data and would not require the City to incur additional costs to administer billing and collections.

John Farnkopf, engineer and rate consultant will also be present to answer questions should they arise.

General Plan/Vision Statement

The City's Vision Statement includes "*Our actions today preserve and enhance Belmont's beauty to make it even lovelier for our grandchildren", "Belmont is a wonderfully safe and supportive place to raise a family"* and *"Our economy prospers with a mix of attractive, successful businesses that fit with our community character"*.

Fiscal Impact

None of the rate structure alternatives would generate more or less revenue than the current rate. The analysis is revenue neutral.

Public Contact

This matter was brought before the Finance Committee at its October 4, 2007 meeting.
Posting of City Council agenda.

Recommendation

Staff is seeking direction from the City Council on the methodology for sewer rates.

Alternatives

1. Give direction to continue the current sewer rate methodology.
2. Approve one of the methodologies presented
3. With direction, refer to staff for further consideration of either the rate structure alternatives or the manner in which average winter residential water use is determined.
4. Select another rate structure alternative or method for determining average winter residential water use to staff for further consideration.

Attachments
None.

Respectfully submitted,

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